

# MEDICAL EDUCATION.

A LETTER ADDRESSED TO THE AUTHORITIES

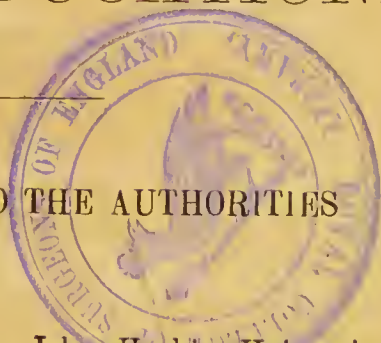
OF

The Johns Hopkins Hospital and The Johns Hopkins University,

BY

DR. HENRY W. ACLAND, F. R. S.

*Regius Professor of Medicine in the University of Oxford.*



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#### NOTE.

THE following letter proceeds from so eminent a source, and is so full of useful suggestions in reference to Medical Education, that it is printed by the Trustees of the Johns Hopkins Hospital and the Johns Hopkins University, for the benefit not only of these institutions, but of all who are interested in that important subject.

It must be read, however, with the distinct understanding, that the Trustees of the Hospital and of the University are committed to no plans of procedure not developed in what the public have already seen, and that the conclusions of the distinguished writer of the letter as to what other plans may be adopted in the future, are not founded upon any authoritative action of the Trustees of either foundation, none such having been taken.

Preparatory to such plans, both bodies are seeking light from the wisest and best instructed sources on the subject of courses of scientific and literary training antecedent to the school of Medicine. The Trustees, prior to the visit of Dr. Acland, had been favored with letters from other eminent British Surgeons and it is probable that a synopsis of their views will be published hereafter.

BALTIMORE, 1879.

## DR. ACLAND'S LETTER.

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FRANCIS T. KING, ESQ.,

*President of the Board of the Trustees of  
the Johns Hopkins Hospital, and*

D. C. GILMAN, ESQ.,

*President of the Johns Hopkins University.*

BALTIMORE, September 27th, 1879.

GENTLEMEN:

I gladly comply with your wish that I should put upon paper the substance of the remarks which I should have ventured to make on Wednesday last at the opening of your University Session, had I not been necessarily absent by reason of a sharp, though temporary, indisposition. You had requested me, on that occasion, to state to your meeting the impression which the various documents relating to your University, a visit to its buildings, and a study of the plans and structure of your Hospital on the spot and in your company, had made upon me.

To fully record these impressions would occupy much space; it would moreover be superfluous, inasmuch as my conclusions are, on the whole, in agreement with those which I believe to be your own, and those of far the greater part, if not all, of the able administrators, your colleagues, who with you administer the noble, wise, and benevolent bequests of Mr. Johns Hopkins.

It is right that I should preface my remarks by saying that it is nearly two years since Dr. Billings visited me at Oxford, and explained your scheme. He then left with me the proposed plans of your Hospital, as well as the published documents explaining the views of the Trustees. It is in consequence of the great interest which his statements excited in me, on account of their relation to the whole subject of Medical Education, both in America and in Europe, that my present visit to the United States is largely due. Since I landed in America, I have had the great advantage of much conversation on the broad Questions of General and Medical Education, and of Public Health Administration, with various and valued friends in Boston, New York, Philadelphia, and Washington. I have moreover visited several Hospitals, old as well as recent, on this and my previous visit to the United States, in all these places, and lastly, you are

aware that I have necessarily heard much on these questions, both at home and abroad, during the last thirty-five years, a period of unexampled progress and change.

With this preface, I venture to offer the following brief observations.

1st. I understand the object of Mr. Hopkins to have been to found in Baltimore, a University; and a Hospital, which is to be closely connected with the Medical School of the University.

2nd. It is impossible to exaggerate the importance to Medical Education in the future of such an intention and hope, carried out with your present knowledge and experience.

3rd. Situated in an increasing City of three hundred and fifty thousand inhabitants, with extensive grounds (between 300 and 400 acres) splendidly situated, your University and your Hospital will have everything that opportunity and site can give. The merit of the foundation is that of a crisis in Medical Education. The experience of the past, and the knowledge, the industry, and the appliances of the present, all combine to make your success in some line certain. The direction which that success will take, depends on the foundation which you now lay. There are already too many common medical schools. A school so carefully planned for certain important purposes does not exist. Such a School I understand you intend to found.

4th. For the complete training of a scientific medical man, three distinct parts of mind are needed:

- (a) a base founded by general literary culture.
- (b) a ground dependent on special scientific attainments.
- (c) a superstructure from close observation of the living sick, followed by dissection accompanied with investigation of the dead.

5th. Each of these three kinds of qualities is to be fostered, specially, during a certain special period of life, by a special course of study, and with special opportunities.

They may properly only be called the School, the University and the Hospital period. There is a tendency to draw a hard line between them. It is easy to show that this is an unnecessary, and even an injurious, one for the best minds. Much time has been expended in fruitless endeavors to decide whether Physiology, Chemistry, Botany and Animal Physiology, any or all, should be academic courses confined to the school period, whether examination on them should take place at one time, or whether any or all should be left to the pursuit of medical studies. What appears to me to be the wisest policy, should all be studied in a continuous way, but not in a continuous amount of acquirement in each, and not by testing at certain periods and in a certain order by examinations, but by constant attention, literary, oral, and practical.

5th. It may seem almost strange to remark that the amount of knowledge to be wisely required of Medical Students in their usual preliminary subjects, is as much matter of dispute as the period at which they should be examined for them. This appears generally to depend upon crude notions as to the end to be obtained in the Education of Medical Practitioners. These notions generally arise from want of appreciation of the fact that some kinds of knowledge are requisite for the Science of Medicine as a whole, which are not requisite for any individual member of the Medical Profession, in order to enable him to possess the requisite knowledge and skill for the safe exercise of his Art. It would take long to illustrate this point fully, but it is highly important. Chemical, Physical, Biological, Pathological, and Therapeutical researches, and laboratories of the highest order, and involving much subdivision of labor are required for the progress of Medicine as a Science. Active practitioners may, it is true, be advanced Chemists, Biologists, or Histologists, as Prout, John Hunter and Bowman have been. It is better, therefore, once for all to say here, that in my judgment men of this kind are born with rare qualities which enable them to become what they are, and are not educated to it.

6th. But in the education of the masses of practising Physicians and Surgeons, the Organizers of Education, the Teachers, and the Examiners, should aim at two great objects—

1st. At securing that the Examinations demand of them mainly what they should know as Practitioners, and

2nd. At teaching them that which they are to be examined in, so that the full powers of the average mind be evoked in a manly way.

Does this statement seem to preclude the chance of securing a higher than an average standard within the profession, or stand in the way of training the abler students by a more thoroughly scientific method?

Certainly not. But it does imply better preliminary education, more expense, and larger time, than can be expected of, or be given by, the average class of youths who mean to follow the ordinary routine of practice, but not to act as the Teachers and advancers of Medical Science.

7th. It is not for me now to discuss how far the Trustees of Johns Hopkins University may hereafter seek to train a large number of students according to the standard of attainments of ordinary Medical Schools. They recognize that of the lower kind of schools there are more than enough, and they have decided on marking out a plan for training at present, only or chiefly, those who are able and willing to devote themselves to the higher studies of Medicine and of Surgery, by such preparation as may be deemed by the Trustees essential to this end.

8th. They propose, I am informed, to require, firstly, that



none shall enter on the scientific course till they have passed a good secondary School Examination, or a higher Matriculation Examination, and after the age of sixteen; secondly, that none shall enter on the final or practical course of the Hospital and Medical School till they have taken a degree in the Scientific department of the University, after a three years' course of study, or have exhibited attainments corresponding thereto; and thirdly, that whatever number of Medical students may be permitted hereafter to have the advantage of clinical instruction in the Hospital, there shall be a number of students holding Hopkins Scholarships and residing in the Hospital, who shall have passed all the Physical, Chemical and Biological Examinations required for this end.

9th. This method, carefully carried out, will insure a body of trained students, forming a "*cadre*" of a Medical School, such as cannot be excelled. This provision that no student should be allowed to act in a Hospital till he has been engaged for three years in Laboratory work in Physics, Chemistry and Biology, subsequent to a good general literary education, will be a new epoch in the History of Medicine.

10th. It would be superfluous for me to comment in detail on the three branches of Education—Literary, Scientific, Professional—as you propose to carry them out. Yet I may be allowed space for a few remarks on each of the great heads of your programme.

#### I. *As to the General or Literary Education.*

I think the age of sixteen somewhat young for entering on the Scientific Course if the Literary Education is then closed; not too young for some minds—nor too young for the exceptionally strong. But few boys have learnt to *think* at this early age. I observe you put logic and psychology in the advanced course. This perhaps meets the objection as to age; for it implies the carrying on in earnest of higher literary pursuits. I should not insist on the study of Greek. It is better if it be taken up. A good man is worse without it than he would have been with it. But accurate study of precise grammatical language must be in some way secured.

I venture to observe that in the study of History, large-minded Biographies should be used, or Biographical rather than military History. Adequate and noble views of Man are needed by a Physician as against mean and selfish and low notions of life. Some religious discipline—that is, some aspiration for a religious life—appears to me as important at least as the possession of any other gift of the mind. Manly recreations, subordinated to the life of work, are needed to call out the manly qualities of energy, resource, and good humor so essential for

physician or surgeon. I should encourage rowing or sailing which your youths can have rather than field sports. There is as much skill in the former, as much danger, and more room for the application of science. The companionship of hardy seamen is good for all men. So is that of the best and manliest sportsmen. At any rate I would urge attention to the manly life—as distinguished from that of book work—but let it be kept in check by the public opinion of the University. I know you to be so keenly alive to the supreme importance of *Character* for the well doing and happiness of Medical men and for the sake of the Public, through their influence, that I need not dwell on that. I have only to add as the sum of the whole, that it should be clearly understood by the public that no man has become a Doctor of Medicine of Johns Hopkins University who has not passed through that training which you require of a Bachelor of Arts or of Science, or the equivalent thereto, prior to his Professional Studies. And this I gather to be the principle which you desire to carry out by such means as you are able to employ.

## II. *As to the Preliminary Scientific training.*

11th. The time of three years which has been allotted by you to the period of entirely scientific study in the University should be amply sufficient for the Student of Medicine—but is by no means too long. In the present day, the subjects of Physics, Chemistry and Biology have become so extensive that each demands entire devotion for high excellence therein. As regards Biology, in the full sense of the word, it may be certainly said that its essence cannot now be thoroughly understood, or its details mastered, except by Anatomists and Pathologists who are also Physicists and Chemists. It is impossible for any, therefore, but men of great vigor of mind and robust power to become, in any accurate sense, complete Biologists. Nor indeed is there any one living who would pretend to know a tithe of what is known of the Fauna and Flora of our planet, in all their relations. Nevertheless, the attempt is by no means undesirable. A medical student, well taught by serious and capable teachers, who will take pains to work him in the direction most profitable for the Pathologist, can now be trained in the essentials of Physics, Chemistry and Biology in three years. But the Teachers in each department require three things—Apparatus, Money, and Self-restraint.

You have provided your Professors with the two first—and I have reason to believe they truly and wisely have the third. To illustrate my meaning as to this third, I would say, that if the Physicist will treat his subjects of Mechanics, Heat, Light, Electricity, including Acoustics and Optics, only in a sense which he

considers perfect, no Medical Students can attend his complete courses except those who mean to become Physicists rather than Physicians or Surgeons.

12th. The Biologist needs opportunity in addition. By opportunity I mean the power of obtaining types of invertebrate and vertebrate Zoology, in abundance and readily. This opportunity by your maritime position you can give—and by the zeal, large-mindedness and general grasp of the whole range of this subject possessed by the Biological Staff, this opportunity has been already used with great effect. None but those who have worked freely in the world of Marine Zoology and Anatomy have any idea of the difference between a superior fresh supply of Marine Animals and mere Museum work for Students. I need not dilate on the healthiness and delight, intellectual and physical, of summer sea-side natural history studies, nor on the magnificent territorial range of your coasts, easily visited. But I may quote a remark I made to Agassiz twenty years ago at Boston, that the results to be obtained in your seas, which extend over so many degrees of latitude, will of necessity be greater than any before known, whenever the number of capable and trained Students has become equal to the task before them. The day has dawned. As to the extent of Physiological, as distinguished from Morphological studies, I make but one remark that living Pathology is an integral element therein.

13th. It may seem to some that I forget that these scientific studies are a preparation for Medicine. This is not the case. The Anatomy of Man comes within the range of the science studies which you direct, so far as is required for comparison with the lower animals, for the intelligent understanding of Man's place in the Creation, and for the ground-work of Hygiene and Medical Anatomy properly so called. These last are properly to be studied after the three years of the scientific course, in which, however, I observe that general Histology is included.

14th. There are only two other points which it seems right to notice. As the students increase in number, and the Professors are for this reason distracted from original work for themselves, the subjects of the Chairs will have to be subdivided. Physics, Chemistry and Physiology are each too large for one Professor, in so advanced a School as yours, unless as is already the case in the Johns Hopkins University, several assistants for sub-departments are placed under one head. This is a question of administrative organization and beyond my province.

### *III. As to the purely Professional Studies.*

15th. Now as regards the proper studies of the last period, it is not well to say much in the present state of your arrangements.



The provisions of the Medical Bequest require a large Hospital to be made the foundation of the Medical Department, under Trustees quite distinct from the University. The time is not yet come for deciding on the detailed administration of this Hospital. As a special "Medical School" is to be built in the neighborhood of the Hospital, we may assume that the Lecture Rooms, Laboratories, Museum and Library, required for *Materia Medica*, Toxicology, Surgery, Medicine, experimental Therapeutics and Comparative Pathology, will be in this Institution.

The Clinical instruction will, I conclude, be in the Hospital, under definite regulations. The regulations will have for their central aim the progress of the endowed scholars who reside in the Hospital, and who are all trained and picked scientific observers, each with his special tastes and aptitudes as Physicist, or Chemist, or Physiologist.

16th. Any remarks on the Hospital itself in its relation to your intentions and to those of your Founder would be an impertinence, had you not desired that I should make some observations thereon. They may be brief. Considering the labor that you have bestowed on inquiry, and the care you have taken in preparing the plans, there could be but one result. Dr. Billings fulfilled your instructions with all the knowledge, industry, and ability which those who know him would have expected of him. The product is a building on the details of which neither thought nor expense have been spared, and of the special fitness of which for its purpose there can be no doubt. A critical examination of it would be out of place here.

Suffice it to say broadly that being of one story with a spacious and lofty basement, and being built on the Pavilion principle, it fulfils the acknowledged conditions of permanent Hospital arrangement. Its general design, aspect, and site are, moreover, unexceptionable. In completeness also of conception it seems to leave nothing to be desired, there being also space for extension.

Those conversant with the literature of Hospital construction, and with the actual modifications of which good Hospitals are capable, will understand how useless would be any discussion of the details without writing a volume. So I will confine myself to very general statements.

You have, by appropriating thirteen acres to the edifice exclusive of the medical school, secured all that can be desired as to space—while on this large area, the several required institutions appear to me to be combined with skill and judgment, as regards relative position, contiguity, and separation. The connection of the scholars' residence with the chief administration block ensures their occupying a social position becoming their claims on your care. Your buildings for the patients who are able to pay for their treatment offer adequate variety of com-

fort and even of luxury in their design, while your intention to decorate some of the wards of the poorer patients with frescoes, and with flowers architecturally disposed and in abundance, are manifestations as well of your æsthetic care for the sufferers, as for their merely medicinal treatment and of your recollection of Mr. Hopkins's benevolent ideas in these respects. Your kitchen department is not advanced towards completion far enough for me to speak of it fully; but I am satisfied that it will be a model of that part of domestic Economy which is so well understood, and so admirably carried out, in the United States.

I will not write of minor arrangements,—minor only relatively to the magnitude of the rest,—viz: the buildings for contagious diseases,—the separation rooms from each ward,—the laundries,—the rooms for Autopsies,—the Conservatory,—and the Gardens. I add but a remark as to the Nurses' arrangements. The edifice which you have adopted for the Home of the Nurses will, it is to be hoped, make it possible to carry out your design of inducing women of high education and character to devote themselves wholly to your undertaking. You will thereby train a body of skilled tenders of the sick with an *esprit de corps* such as Miss Nightingale's Nurses have in England, or such as the best of the Sisters of Charity have in Great Britain, and the Continent of Europe. The principle which you lay down that they shall, when in the wards, be wholly on duty, and when not on duty, be in a united and attractive *Home*, may be expected to be fruitful of admirable results to themselves in health and cheerfulness. They will also, I trust, help to show to their sisters, elsewhere, the happiness of skilled nursing as a natural profession and career in medicine for their sex. But here I pause—to go further would be to elaborate panegyric or to discuss details—and neither are now to be desired.

17th. It is to be observed, in connection with the last remark, that such a Hospital as yours, and indeed Hospitals of far inferior merit, serve a special purpose as showing the conditions which are deemed desirable for the Hygienic care of the sick. Opinions differ as to what are abstractly the best conditions. Critics can always find objects for the exercise of their skill. You can only adopt one plan—you do not say that no other details but yours are good. It is yours only to do that which certainly is good and in a seemly way. I mentioned this because you may be told hereafter, for instance, that the Building is too widely spread, and that distances are too great; or that there are no radical objections to two stories; or that ventilation can be by open windows. Suffice it, that, taking all things into consideration, your plans are made so that you believe they cannot be made better, and that, as you execute

them, you carefully scan every suggestion that is presented to you, if worthy of notice.

For the purpose of instruction as well as utility, you have adopted a plan of a very comprehensive character, and are executing it in a solid manner, and with a simplicity of æsthetic taste, such as entitles you in these days of labored ornamentation to public gratitude.

18th. There is another subject on which you invited observation, namely, the relation of the medical school and of the medical Teaching to the University and to the Hospital respectively.

Till the Hospital approaches completion it would be wholly premature to discuss this subject except in the most general manner.

(a.) The Hospital is destined to fulfil two great objects. One is the treatment of the sick of Baltimore, which numbers 350,000 inhabitants, though not to the exclusion of other applicants. These will enter in conformity with the conditions of admission which you devise for the common good. With this primary object you allow nothing to interfere. The best accommodation,—the best nursing—the best diet—the best medicine and surgical treatment—the means for securing the fittest staff, whencesoever obtained, are, I understand, your rôle in this matter.

(b.) The Hospital being primarily for the sick, there is the second great object, viz., that of imparting to others the medical knowledge of your staff, and of giving means of individual observation and study to students. Now these students are primarily a number of youths selected on these grounds: 1st, of having had good general Education; 2nd, of having subsequently followed a defined course of Biological study; 3rd, of having good character, and of showing aptitude for medical research in some direction. They will form the nucleus of your students,—and reside on the spot as holding “Hopkins Scholarships.” These men will require instruction in all Professional subjects, Surgical and Medical, in Anatomy, in Medical and Pathological Chemistry, and in all branches of practice in Medicine and Surgery. The Staff, and others if requisite, will be their teachers. They will require Laboratories, work-rooms of various kinds, and Lecture Theatres, besides the Clinical Lecture Rooms, within the Hospital. All these appliances you propose to build on the Estate adjoining the Hospital and to call the Building, “The Medical School.”

Now it would be greatly to be regretted if some of the advantages of your School, Hospital and Staff, could not be made available (under conditions,) to many Students besides the “Scholars.” Might there not therefore be a large Lecture Room, (say for 500,) in a building so placed on the ground that other structures could be added?—and might there not be



Laboratories, with Anatomical and Pathological Rooms adequate for the Scholars and a few more, but also capable of extension, if required and at any time?

It would seem very desirable not to expend more funds than are really necessary for starting the School, for the Scholars,—so as without delay to establish them—the very nucleus and heart of the scheme. It will be easy to add numbers when the working of the “Honors” department has shown the principle of your institution in operation. Above all, no thought of mere numbers of students should at first influence the arrangements for the Scholars. You want apparatus in kind as complete for twenty-five advanced men, as for five hundred,—indeed more complete. More space only and assistant teachers are needed for the larger number.

19th. This appears to be the place for making a single observation concerning the relation of this Hospital to the teaching of what is called, for want of a better term, “Hygiene.” It is not desirable that every Student who intends to practice his Profession should be required to go through a course of study which would qualify him to be an expert in questions affecting the Public Health. But it is desirable that an Institution such as is now being provided by you should, if possible, give its Scholars the opportunity (should they desire it,) of acquiring good knowledge of the Departments of Preventive and of Legal Medicine. They might use this opportunity either before they graduated as Physicians, or, as I would suggest, after that period. In the latter case they should have a distinctive additional title to show that they have also devoted themselves to that department. The details may be considered at another time. Baltimore would offer an excellent field for observation. The drainage arrangements of the city which are not good,—the new works constructed on modern principles,—the details of construction in your Hospital,—and especially those concerned with Ventilation and Heating,—the manufactories and your Laboratories,—all would furnish excellent data in the hands of a Professor.

I venture indeed to add that your school would be an excellent place for the establishment of such a Professor, to be entitled Professor of Comparative National Health,—that is of the general laws which regulate the *Health condition of man as man*, under his several circumstances of *Climate, Locality, Occupation, Government and Race*. The neighborhood of Washington, where the National Statistics are collected and stored,—the great Medical Library there,—and the truly National Character of such a Chair,—seem to point to a considerable advantage in founding it in connection with your School and your Laboratories, which may in time be resorted to (as



your whole plan implies,) by advanced students who desire special and prolonged scientific training in subjects allied to Practical Medicine, but not well suited to ordinary Medical Schools. There are men in the States capable of filling this high post, if an adequate endowment can be provided. In a foundation requiring a rare combination of talents, it would be a really National office, for which the vital statistics of the world are now ripe.

In conclusion, I venture to sum up what I have said :

1st, That your scheme for founding a school of highly educated scientific students, to be devoted to the Medical Profession, is a real addition to the resources of Medical Education in the States.

2nd, That such scientific students need also a previous good liberal Literary Education.

3rd, That such a scheme requires longer time than should, or can, be given by ordinary students.

4th, That the existence of a Nucleus of select "Johns Hopkins Scholars" does not preclude the extension of some of the advantage of the Hospital and School to larger numbers of ordinary students, and

5th, That the building of the "Medical School" attached to the Hospital though primarily constructed for the "Johns Hopkins Scholars" may be made available, under conditions, for a much larger school, and even for ordinary students from other schools, who may desire to be for some purposes, for a limited time, connected with your foundation.

6th, That your Hospital can be not only a first-class Institution for the care of the sick, but may be used for a model for training nurses; for Lectures on Hospital Construction, and sanitary details; and as a school for teaching the higher principles and facts of "Comparative National Health."

All these considerations are materially strengthened by the fact that you are about to devise, in friendly connection with your trust, a great scheme for promoting the health of the children of your district, by Creches, by Hospitals, and by Convalescent Homes, or otherwise, at a cost, as I understand, of \$500,000—and that your relations with the Hospital for the treatment of Mental diseases will enable you to utilize for scientific purposes great opportunities for Psychological study under suitable arrangements.

*Gentlemen:*

I regret that my remarks have extended to so great length, but I beg you to attribute this to my sense of obligation created by the confidence which you have reposed in me, together with the deep respect I entertain for your endeavours and those of your colleagues and coadjutors in the University and Hospital—trusts of Mr. Johns Hopkins.

I have the honor to be, Gentlemen,  
most faithfully yours,

(Signed,)

HENRY W. ACLAND,  
*Regius Professor of Medicine*  
*in the University of Oxford, F. R. S.*

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ON P. 4